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Happy New Year AIAA Houston Section!

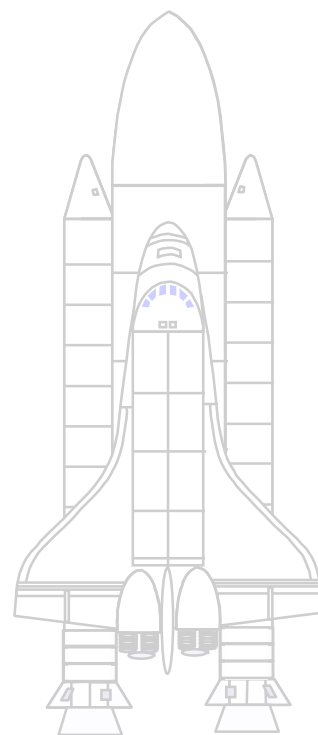
This past year was an exciting year and 2000 is shaping up to be even better! The year will be starting out right with a month full of events. The Lunch and Learn topic will be "NASA's Life Sciences Data Archive: A Resource for Life Scientists" with Dr. Jane Krauhs. Our dinner program will feature Dr. Kamlesh Lulu who will be speaking about Earth Observations from Orbit. *Physics is Fun 2000* will also be in January, offering a tremendous learning experience for elementary and middle school students! It features hands-on demonstrations and lots of fun!

In February, Col. Michael Coats (ret.), a former astronaut and now Vice President, Reusable Space Transportation Systems for Lockheed Martin Astronautics, will be speaking at the dinner program. This program will be in conjunction with the Human Space Transportation and Exploration Workshop being held in Galveston, also in February.

The AIAA Houston Section and University of Texas at Austin AIAA Student Branch will be hosting the Region IV Student Paper Conference this year. In April, talented students from Texas, Oklahoma, Louisiana, and New Mexico will be coming to Houston to share their experience.

As you can see, this year is going to be full of opportunities to expand your horizons through participation in AIAA events. There will also be lots of opportunities to share your own experience through volunteering, so keep your eyes and ears open!

Look inside this issue of *Horizons* to find the details of these exciting events as we blast off into the New Year!



Volunteers Needed

Human Space

Transportation and Exploration Workshop

February 28 - March 1, 2000

Moody Gardens Hotel

Galveston, Texas

Two volunteers are needed during the evening of February 28th and morning of February 29th to help with the workshop's registration and setup. As an incentive, AIAA volunteers will receive free workshop registration. If you are interested in volunteering, please contact Steve King at (281) 333-6646 or steve.king@lmco.com. Additional information about the workshop can be found at www.jsc.nasa.gov/aiaa/hstew.html.

January 14 Deadline for Next Horizons

Thanks to everyone who contributed to this edition of Horizons! The deadline for next month's issue is just around the corner. Please submit all articles to John Keener by Friday, January 14, 2000!

Contributions can be submitted by email to John Keener at john.keener@lmco.com.

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Publications Chair

John Keener

Assistant Editor

Christine Cornejo-Lopez

Contributing Authors

Joy Conrad

Steve King

Merri Sanchez

Darby Cooper

Karin Loftin

Douglas Yazell

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Chairman's Corner

by Merri Sanchez, Chairman

I want to wish all of you a safe and joyous holiday season this year. I look forward to getting back together for our January meeting. We have a great lineup of spring dinner programs for you. Our programs will be:

- January 18, Dr. Kamlesh Lulla speaking on Earth Observations from Space at the Gilrouth
- February 28, Col. Michael Coats (ret), a former astronaut, who is with Lockheed now
- March 16, Dr. Seth Shostak, an AIAA Distinguished Lecturer speaking on the Search for Extraterrestrials
- April 20: John Lienhard from the University of Houston speaking on Engines of our Ingenuity.

In addition we are trying to arrange for a special event for Maxime Faget to speak to us on the history of the US human space programs.

We are also gearing up for several other spring events. January 10-13 is the 38th AIAA Aerospace Science Meeting and Exhibits at Reno, NV. The Houston Section will be well represented with one member being named an Honorary Fellow, five being named as Associate Fellows, one receiving the Losey Award, and the Section receiving the Outstanding Section Award! January 13 is a Life Science's Lunch and Learn with Dr. Jane Kraus speaking on the Life Sciences Data Archive. Then January 22 we will host a "Physics is Fun" day for local school children.

February brings Engineers Week the 20th-26th. Then AIAA is helping to support the Human Space Transportation and Exploration Workshop at Galveston. Lockheed Martin Astronautics is sponsoring this conference. March will see the Congressional Visits Day on the 15th and 16th, and the Houston Science and Engineering Fair the 23rd-25th.

On April 6-7 we will be hosting the Region IV Student Paper Competition jointly with the Annual Technical Symposium. ***We have a critical need for volunteers to help with these two activities.*** There is a lot of work required to plan and conduct an event like this. Please contact Merri Sanchez at 281-244-8461 or Darby Cooper at 281-538-6100 extension 20. The more volunteers we have, the easier the work will be!

The Section is also still looking for four more chairs. This is an excellent opportunity for you to become more involved in the Section activities. The available positions are Programs Chair, Young Professionals Chair, Professional Development Chair, and SR&QA Technical Committee Chair. Please contact me if you are interested in one of these positions.

I want to thank all of the council members for contributing to making the first half of this AIAA cycle successful. I really appreciate everyone's hard work.

May everyone and their families enjoy the rest of the year.

Merri Sanchez

Help AIAA Help You - Update Your Member Records!

by Darby Cooper

It is often said that the aerospace industry is the only place where you can have the same job for five years and work for five different companies. That is especially true given the industry wide consolidation that has happened in the last few years. As companies have changed so have the building signs and the business cards – but is your AIAA member record up to date? A recent review of the Houston Section membership roster revealed almost 100 members working

for companies that have changed (such as McDonnell Douglas and Rockwell Space Operations Company). Knowing where our members are working is vital to the Houston Section in obtaining corporate support for local AIAA activities (such as our monthly dinner meeting). Take a few minutes and visit the AIAA website at <http://www.aiaa.org/service/address.html> to update your member information or call customer service at 1-800-639-2422.

AIAA Award Nominations

by Merri Sanchez

Nominations are due to National on February 1 for the following awards. Please contact Merri Sanchez at 281-244-8461 or Rakesh Bhargava at 713-977-7770, extension 1319 if you would like to suggest someone for the Section to nominate. Please have all nominations to the Section by January 15 so that we can get the nomination package together. More information for the awards can be found on the AIAA National Web site at <http://www.aiaa.org/information/professional/awardnom.html>

- *Aerospace Power Systems*
- *Energy Systems*
- *Mechanisms & Control of Flight*
- *DeFlores Award for Modeling and Simulation*
- *Aerospace GNC Award*
- *Astrodynamics*
- *Multidisciplinary Design Optimization*
- *Space Systems*
- *Von Braun Space Program Management*
- *G. M. Low Space Transportation*
- *Aerospace Maintenance*
- *Aircraft Design*
- *Hap Arnold Award for Excellence*
- *Piper General Aviation*
- *Wright Brothers Lectureship*

Houston Section Announces New Council Members

by Merri Sanchez

I am happy to announce the following new council members in the Houston Section. Steve King is our new Publicity Chair. Rakesh Bhargava is our new Honors and Awards Chair. Al Jackson is our new Astrodynamics Technical Committee Chair and Larry Friesen is our new Space Science and Astronomy Technical Chair. Welcome to you all!



AIAA Life Sciences, Space Processes and Human Factors Technical Committee Presents

Lunch 'n' Learn

NASA's Life Sciences Data Archive: A Resource for Life Scientists

Jane Krauhs, Ph.D.

Thursday January 13, 2000
11:30 am -12:30 pm
Building 37
Conference Room 2

Please join us, bring your lunch and a friend, and see a demonstration by Dr. Jane Krauhs of a newly upgraded Web resource for anyone interested in learning about the physiological response to space flight. Dr. Krauhs is a senior scientist with Wyle Laboratories Life Sciences Systems & Services. She came to JSC in 1982 to support data analysis and technical writing in endocrinology with Dr. Carolyn Huntoon. She has worked on the Life Sciences Data Archive since 1995. In the last year, she has also supported the Nutrition Laboratory, the Microbiology Laboratory, and the Biotechnology Cell Science Program as a technical editor.

Please RSVP to Karin C. Loftin at (281) 244-1122. Hope to see you there!!

Houston Section to Host 2000 Region IV Student Conference

by Darby Cooper

The University of Texas at Austin Student Branch and the Houston Professional Section will co-host the 45th AIAA Region IV Student Paper Conference on April 6-7, 2000. The conference is one of seven regional conferences. Region IV includes students from Texas A&M University, the University of Texas (Austin & Arlington), Louisiana State University, University of Oklahoma, Oklahoma State University, University of New Mexico, and New Mexico State University.

The conference will enable students to gain valuable technical presentation experience while competing for cash awards. Students from

the various schools will present their technical research at both the undergraduate and graduate levels. In addition, the students will hear from exciting industry speakers and have an opportunity to tour NASA's Johnson Space Center.

The top papers in the graduate and undergraduate categories will each receive cash prizes of for first, second, and third place. In addition, a special category for freshman and sophomore students will award prizes for the top three aviation history reports. The undergraduate and graduate first place winners will also be given the opportunity to present their work during the National Student Conference held in conjunction with the Aerospace

Sciences Meeting in Reno, Nevada during January 2001.

As a sponsor of this event, the Houston Section provides logistical support to the host student branch and conducts fund-raising efforts to help defray the costs for the students. In addition, the section is responsible for providing both technical and audio judges to provide feedback to the students on their work. Volunteers are needed to make this conference a success. If you are interested in volunteering please contact:

Darby G. Cooper
281/538-6100 ext. 20
dgcooper@neostar-astro.com

AIAA Announces Losey Atmospheric Sciences Award Winner

by Merri Sanchez

The American Institute of Aeronautics and Astronautics (AIAA) is pleased to announce that Mr. Donald J. Kessler is the 2000 recipient of the AIAA Losey Atmospheric Sciences Award. The award will be presented on January 11, 2000 during the 38th Aerospace Sciences Meeting and Exhibit at Reno, NV.

The award is presented in recognition of outstanding contributions to the atmospheric

sciences as applied to the advancement of aeronautics and astronautics. Mr. Kessler will be honored "in recognition for pioneering work in the discovery and definition of the orbital debris component of the atmospheric environment."

Mr. Kessler is a retired NASA JSC Senior Scientist for Orbital Debris, and currently resides in Friendswood, TX.



American Institute of Aeronautics and Astronautics

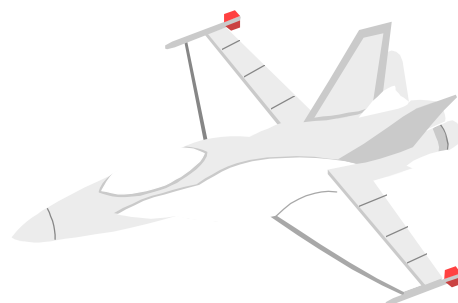
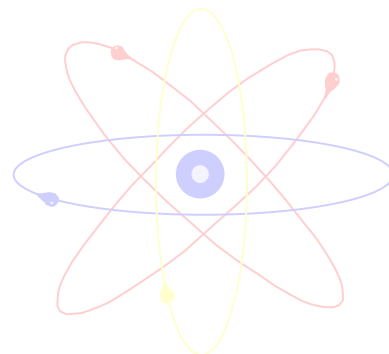
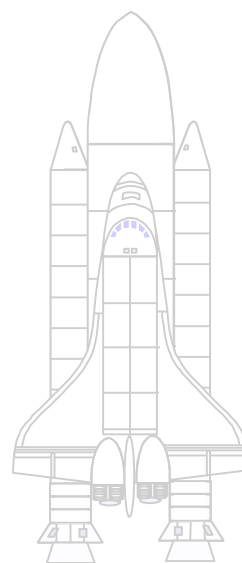
Physics is Fun 2000!

Physics is Fun 2000! is an AIAA-sponsored day for EXPLORATION, DISCOVERY, and FUN! It is the perfect opportunity for children to explore the basic scientific ideas that play a role in their everyday lives. Students will be fascinated with the fun hands-on science demonstrations.

- Who: 100 Elementary and Middle School Students
- When: Saturday, January 22, 2000
9:00 am to Noon
- Where: Gilruth Center, Johnson Space Center
(Enter from Saturn Lane, check in with the guard, and then proceed straight back until the road ends)
- What: One large stage presentation followed by hands-on science projects demonstrating basic everyday physics. Groups of children will rotate through each of the projects.

All Science Demonstrations have been chosen with safety as a primary concern. An adult must accompany all children under 8.

If you would like to participate in this free event, pre-register by calling Joy Conrad at (281) 480-4101 x220 by January 15 then bring the following waiver signed to check-in on January 22 at 9am. Space is limited, so register early!



Waiver of Liability

In consideration of the acceptance of my child's participation, I do hereby release and discharge AIAA and NASA/JSC for all claims of damage, demands, actions, whatsoever on any manner arising or growing out of my child's participation in *Physics is Fun 2000*.

Name of Child

Parent's Signature

Date

Wanted: GN&C Technical Committee Members

by Douglas Yazell, GN&C TC Chair

The Houston AIAA section is looking for engineers to join the Guidance, Navigation, and Control technical committee. A first cut at our charter and goals is on our web site at <http://www.jsc.nasa.gov/aiaa/GNCTChome.html>, and they are also presented below:

Charter:

To provide a forum for exchange of ideas and information regarding the state of the art and the future of aerospace guidance, navigation, and control. To stimulate education, professional development, and accomplishment by fostering communication and by providing resources.

Goals:

- Recruit members for the technical committee and AIAA
- Encourage lectures from government, industry, and universities
- Monitor and contribute to the mirror committee on the national level
- Organize lunch-and-learn sessions in the Houston Clear Lake area (minimum 3 per year)
- Focus on the technical challenges of the next 3-5 years

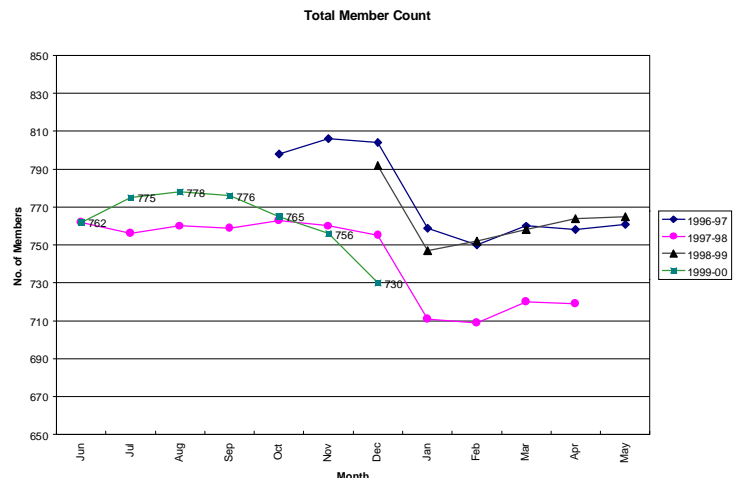
- Meet 3-4 times per year, perhaps some with national committee, to focus on the technical issues in the field
- Interact with other AIAA technical committees, other professional societies, and universities
- Survey tools and techniques
- Initiate and review reports on GN&C aspects of missions to Mars

An ambitious lunch-and-learn schedule would result in one such meeting per month. The search has started for a speaker in January related to the space shuttle cockpit upgrades ("glass cockpit"), the Multifunction Electronic Display System (MEDS). The tentative location for the event is building 16 at NASA/JSC. Volunteer work with this committee and other AIAA activities has many rewards for an engineer at any stage of a career. The Clear Lake area is an excellent center for expertise in this discipline. The national and local AIAA sections have prepared excellent guidelines for the technical committees. Please contact me if you would like to participate in the committee's upcoming activities as we start from scratch (two of us so far) for the new fiscal year. Phone: 281-244-3925. E-mail: dyazell@space.honeywell.com.

Did You Renew?

By Darby Cooper

The Houston Section membership has seen a recent decline – did you renew your membership this fall? Many of our members have renewal dates in September – did you forget? As the holiday season approaches, take a few minutes and make sure to renew your AIAA membership to keep your career on track for the new millennium!



Have You Considered an Upgrade?

by Darby Cooper

Many members neglect applying for upgraded AIAA membership status simply because they are not familiar with how the system works. To prove that it is not so mysterious after all, this article addresses the most common questions about the process. Contrary to what you might think, the odds are not stacked against you. During 1996, over 1,000 members were upgraded to Senior Member status. In 1997, AIAA will upgrade 141 Senior Members to Associate Fellows (from 160 applications received) and elect 29 Fellows from 122 applications received. Now that you know the real story, obtain an upgrade form and apply for that membership grade you earned long ago and never bothered to apply for, or go ahead and nominate a deserving colleague.

Is there a fee to upgrade my membership status?

Absolutely not. AIAA does not increase your dues rate when you are elected to the next level of membership. All members pay the same dues regardless of membership grade.

How do I know if I qualify for a membership upgrade?

Simple: If you have over eight years of professional practice in the arts, sciences, or technology of aeronautics you are eligible for Senior Member status. If you have over twelve years of professional practice in the arts, sciences, or technology of aeronautics and are currently a Senior Member, you may be nominated for

Associate Fellow status. If you have personally made notable and valuable contributions in the field of aeronautics or astronautics and are currently an Associate Fellow, you can be nominated for Fellow. If you are a person of eminence in aeronautics and astronautics, recognized by a long and highly contributive career in the arts, sciences, or technology thereof, and a current Fellow, you may be nominated for Honorary Fellow.

What are the deadlines for various membership upgrade applications?

Senior Member applications are accepted and processed each month. Associate Fellow nomination forms are due by April 15 of each year and references are then due by May 15. Fellow and Honorary Fellow nomination forms are due by June 15 of each year and reference forms are then due July 15.

Who do I call to receive the nomination forms?

To receive AIAA membership upgrade information, simply call AIAA Customer Service at 800/639-AIAA, or outside the United States call 703/264-7500. The Customer Service Representatives will be glad to forward membership upgrade information to you. You can also download the upgrade package from the AIAA web site at <http://www.aiaa.org/information/professional/upgrades-pdf.html>

Honorary Fellow Awarded

by Merri Sanchez

Angelo Meile, Foyt Professor Emeritus, Rice University, was recently selected as one of three new AIAA Honorary Fellows. This is the highest honor awarded by AIAA and is awarded for outstanding contributions to industry. Dr. Meile was elected "for devotion to the pursuit of excellence in aeronautical engineering as embodied by his contributions to America's aircraft and space systems development." Congratulations!

AIAA Life Sciences, Space Processes and Human Factors Technical Committee

by Karin C. Loftin, Ph.D.

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IAA Life Sciences,
Space Processes and
Human Factors

Technical Committee sponsored a "Lunch and Learn" by Dr. Charles Bourland entitled, "International Space Station Food System" on Tuesday November 30, 1999. Dr. Bourland discussed the current ISS food system and plans for the future. He presented the food system used on the Mir compared to that planned for ISS. He and his colleagues provided samples of space cuisine, cheese tortellini, beef teriyaki, and fancy sausage that everyone enjoyed (at least we heard no complaints). Some meats are processed by high dose food irradiation while frozen to allow long-term storage at ambient temperature. Studies were conducted on extending the shelf-life of food, e.g., flour tortillas, by controlling the amount of water in the food.

For a variety of reasons, astronauts tend to lose significant weight while in space. (This is probably not a solution for those of us who are overweight). The food chosen by each crewmember is presented

in an appealing manner in a container. However, the take-home message was that astronauts really would like to have a pantry in the ISS mess hall instead of just a container. (I will no longer take my pantry at home for granted). After 2A.2 the current plan is for US food to be shipped to Russia where it will be loaded on a Progress for delivery to ISS.

Thank you to Dr. Bourland for his presentation and samples of food and to all of you who came to learn more about food for flying in space. Check our AIAA website for the first Y2K "Lunch 'n' Learn" entitled, "NASA's Life Sciences Data Archive: A Resource for Life Scientists," on January 13, 2000 in B37, Conference Room 2 at 11:30 am.

Stay Informed with AIAA E-mails

by Darby Cooper

As a service to our members, the Houston Section periodically send out e-mail notices on upcoming events of interest. If you are an AIAA member and would like to be added to our distribution list, please contact Michael Begley at (281) 244-4741, or send a note to begley@pat.mdc.com.

"It is difficult to say what is impossible, for the dream of yesterday is the hope of today and the reality of tomorrow."

- Robert H. Goddard, at his high school graduation, 1904

Calendar of Events

January 2000

TBD	Spirit of Apollo Scholarship applications available
1/6	Executive Council Meeting
1/10-13	38 th AIAA Aerospace Science Meeting and Exhibits in Reno
1/11	Life Sciences TC Meeting, 11:30 am, B11 Cafeteria
1/13	<i>Lunch and Learn</i> "Using the Life Sciences Data Base" with Jane Krauhs
1/14	Newsletter inputs due
1/18	Dinner Program with Dr. Kamlesh Lulu on Earth Observations from Orbit
1/20	<i>NASA Connect Series</i> Geometry of Exploration: Wings Over Mars
1/22	Physics is Fun 2000 9am – noon at the Old Gilruth Gym
1/31	Nominations due to National for following awards:

Aerospace Power Systems, Energy Systems, Mechanisms & Control of Flight, DeFlores Award for Modeling and Simulation, Aerospace GNC Award, Astrodynamics, Multidisciplinary Design Optimization, Space Systems, von Braun Space Program Management; G. M. Low Space Transportation, Aerospace Maintenance, Aircraft Design, Hap Arnold Award for Excellence, Piper General Aviation, Wright Brothers Lectureship

February 2000

TBD	AIAA National Elections
TBD	Spirit of Apollo Scholarship Applications due
TBD	Lunch and Learn: "Contributions of the Inner Ear to Cardiovascular Regulation" with Dr. Todd Schlegel, 11:30-12:30 B37, Conf. Room 1
TBD	Telecon to Australian Section
TBD	Congressional Visits Day
2/3	Executive Council Meeting
2/11	Newsletter inputs due
2/15	Identify Associate Fellow Nominations
2/17	<i>NASA Connect Series</i> Proportionality: The X-Plane Generation
2/20-26	Engineer's Week

2/28	Dinner Program with Mike Coats, Lockheed Martin Astronautics
2/29-3/1	Human Space Transportation and Exploration Workshop at Galveston

March 2000

TBD	Lunch and Learn
3/1	2000-2001 Officer Nominating Committee Named
3/2	Executive Council Meeting
3/8	Newsletter Inputs Due
3/15	Identify Fellow Nominations
3/15-16	Congressional Visits Day
3/16	Dinner Program with AIAA Distinguished Lecturer Seth Shostak on the Search for Extraterrestrials
3/23-25	Houston Science and Engineering Fair

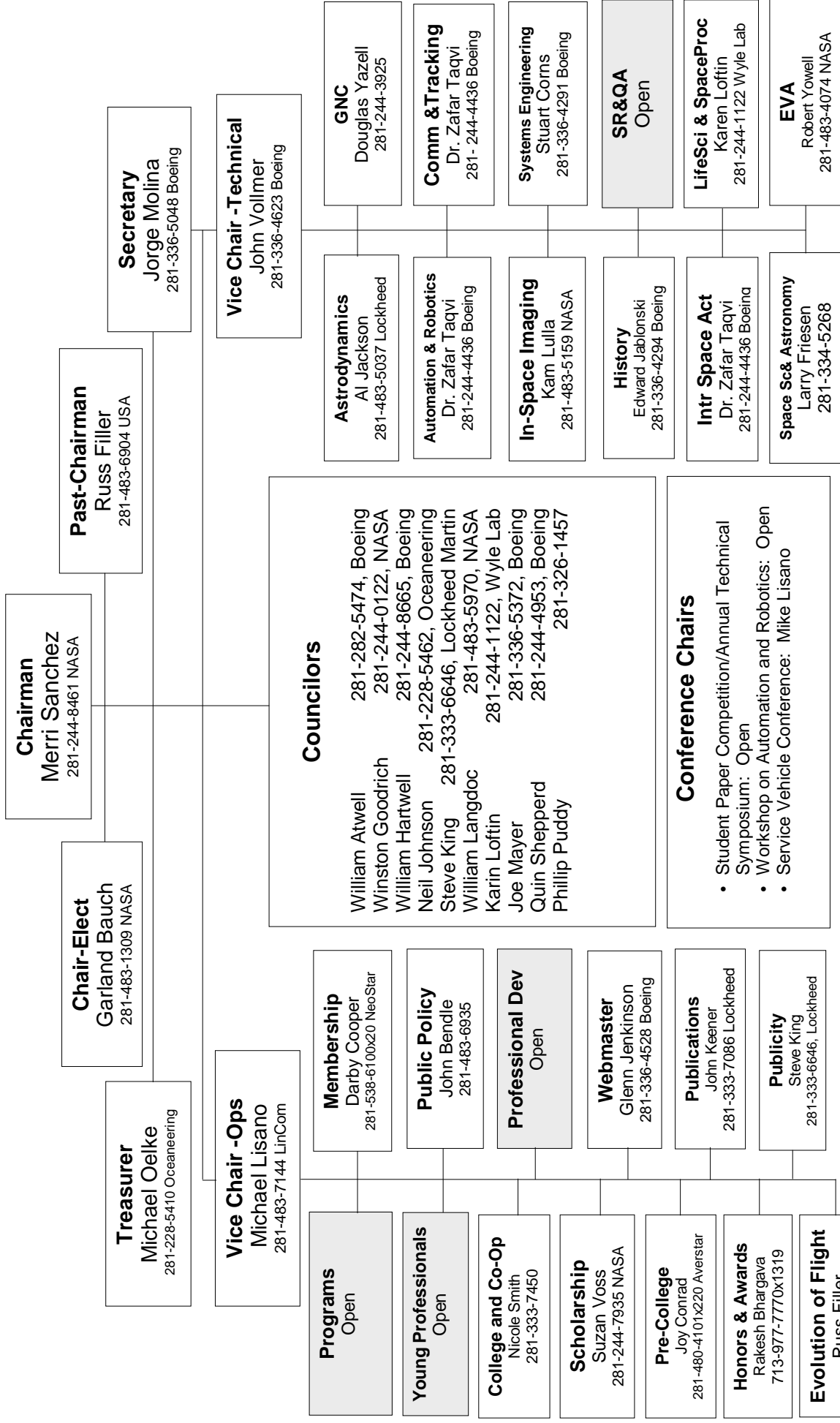
April 2000

TBD	Lunch and Learn
TBD	Telecon with Australian Section
4/6-7	Student Paper Competition
4/6-7	Annual Technical Symposium
4/8	Region IV RAC at Houston
4/12	Newsletter inputs due
4/13	Executive Council Meeting
4/15	Associate Follow Upgrade Nominations Due to National
4/15	2000-2001 Officer Election Ballots Mailed
4/20	Dinner Program with John Lienhard on "Engines of Our Ingenuity"



American Institute of
Aeronautics and Astronautics

1999-2000 Houston Section Executive Council



Italics implies will or has been asked, but has not accepted yet



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